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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
HOLLIDAY, JAIME MICHELE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,346	COSTA ET AL.	
	Examiner	Art Unit	
	JAIME M. HOLLIDAY	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

Applicant's arguments filed January 29, 2009, with regards to "ARGUMENT" sections a, b and c, have been fully considered but they are not persuasive.

Applicant basically argues that the allocation of frequencies in Guimont is not dynamically periodically changed according to a predetermined sequence of allocation schedules or using different allocation plans at different times, and the reference does not anticipate or render obvious at least making the sub-carriers available during a first time period to each radio cell for transmission of information.

With regards to Applicant's arguments, Examiner respectfully disagrees. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Guimont is used to teach the allocating frequencies (sub-carriers) to radio cells, and Ma is incorporated to teach allocation of sub-carriers during different time periods, as clearly discussed below.

Further, Applicant argues that Ma does not teach or suggest allocation to radio cells, and any periodicity or regular change of the frequency allocation.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., periodicity or regular change of the frequency allocation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Also, in regards to Applicants argument that after all frequencies are allocated in Mode 2, there is no apparent reason to return to a previous frequency allocation per mode, Fig. 2 in Ma et al. clearly shows that Mode 2 (all frequencies are used) is allocated prior to Mode 1 allocation for a set of subcarriers. Further, as referred to above, and clearly discuss below, the Guimont reference clearly teaches that the allocation of frequencies (sub-carriers) is applied to radio cells.

Applicant further argues that, the prior art of record fail to teach or suggest "temporarily during a first time period allocating the sub-carriers to the radio cells, to make the sub-carriers available during a first time period to each radio cells for transmission of information" and "allocating the sub-carriers to the radio cells during a second time period, the sub-carriers being allocated by assigning each of the sub-carriers only to a subset of the radio cells including at least two radio cells for transmission of the information."

With regards to Applicant's arguments, Examiner respectfully disagrees. Guimont et al. teach and suggest a frequency plan revision proposal (method of managing radio resources) is evaluated to determine whether it is compatible with the current cell configuration by insuring that sufficient frequencies having appropriate operating modes are available for assignment to meet the traffic and control channel requirements and availability of the included cell transceivers (frequency band having sub-carriers in a cellular radio communications system). Available frequencies in the

cellular frequency band (frequency band) are divided in accordance with the frequency plan (allocated) into ***frequency groups*** 14 (***sub-carriers***), with the ***frequency groups*** assigned amongst the ***cells*** 10 of each ***cluster*** 12 (***sub-set of cells***; fig.1) such that the radio frequencies of the cellular band are reused in each cluster (making sub-carriers available to radio cells; assigning each of the sub-carriers only to a subset of the radio cells), (abstract, fig. 1, col. 4 lines 19-40). The Guimont reference does not explicitly teach that the sub-carriers are allocated during different time periods. Ma et al. in incorporated to teach this feature. Ma et al. teach and suggest a method of communicating over a shared OFDM band (frequency band) (paragraph 86). FIG. 2 shows an example of time-frequency resource allocation for two different OFDM modes referred to as Mode-1 and Mode-2, which changes over time (Therefore, the modes are representative of periods of time) (first time period; second time period). For symbol periods ti through ti+9, a first allocation is shown with the first frequency band 51 assigned to Mode-1 traffic and the second frequency band 53 assigned to Mode-2 traffic. During symbol duration ti+10, ti+11, the entire OFDM band 50 is dedicated to Mode-2 traffic. During symbol duration ti+10 and onward, the first frequency band 51 is assigned to Mode-2 traffic while the second frequency band 53 is assigned to Mode-1 traffic, (to make the sub-carriers of the at least one frequency band temporarily available during a first time period, and allocating the radio resources to the radio cells during a second time period) (paragraphs 124, 125), *wherein the allocation of resources to radio cells is explicitly taught by Guimont*.

Additionally, Applicants argue that the combination of Guimont and Ma is a hindsight reconstruction of the claimed invention and “effectively creating a frequency plan” is the objective in Guimont and it is not related to the current application.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Further "the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. See, e.g., In re Kahn, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (motivation question arises in the context of the general problem confronting the inventor rather than the specific problem solved by the invention); Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1323, 76 USPQ2d 1662, 1685 (Fed. Cir. 2005) ("One of ordinary skill in the art need not see the identical problem addressed in a prior art reference to be motivated to apply its teachings.")" [MPEP 2144 IV RATIONALE DIFFERENT FROM APPLICANT'S IS PERMISSIBLE]

Therefore, in view of these arguments, Examiner maintains pervious rejections.

Applicant's arguments filed January 29, 2009, with regards to "ARGUMENT" section d, have been fully considered but are moot since the inclusion of the phrases "Li et al." and "Reinhardt" were merely typographical errors, and have been corrected in the present application. The prior art and rejection previously applied to the claims in Final Rejection (mail dated October 31, 2007) has remain unchanged.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. **Claims 15, 16, 18-20 and 26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Guimont et al. (6,052,593)** in view of **Ma et al. (US 2004/001429 A1)**.

Consider **claim 15**, Guimont et al. clearly show and disclose that a frequency plan revision proposal is evaluated to determine whether it is compatible with the current cell configuration by insuring that sufficient frequencies having appropriate operating modes are available for assignment to meet the traffic and control channel requirements and availability of the included cell transceivers. Available frequencies in the cellular frequency band are divided in accordance with the frequency plan into frequency groups **14**, with the frequency groups assigned amongst the cells **10** of each cluster **12** such that the radio frequencies of the cellular band are reused in each cluster, reading on the claimed "method for managing radio resources of a frequency band having sub-carriers in a cellular radio communications system configured as a multi-carrier system, comprising allocating the sub-carriers to the radio cells, to make the sub-carriers available for at least one frequency band having sub-carriers, to make the sub-carriers available to each radio cell for transmission of information; and allocating the sub-carriers being allocated by assigning each of the sub-carriers only to a subset of the radio cells including at least two radio cells for transmission of the information," (abstract, fig. 1, col. 4 lines 19-40).

However, Guimont et al. fail to specifically disclose that the sub-carriers are allocated during different time periods.

In the same field of endeavor, Ma et al. clearly show and disclose a method of communicating over a shared OFDM band comprising: generating and transmitting a low rate mode OFDM transmission in a first frequency band of the

OFDM band; generating and transmitting a burst-mode transmission in a second frequency band of the OFDM band, the first frequency band being distinct from the second frequency band (paragraph 86). FIG. 2 shows an example of time-frequency resource allocation for two different OFDM modes referred to as Mode-1 and Mode-2, which changes over time (Therefore, the modes are representative of periods of time). For symbol periods t_i through t_{i+9}, a first allocation is shown with the first frequency band 51 assigned to Mode-1 traffic and the second frequency band 53 assigned to Mode-2 traffic. During symbol duration t_{i+10}, t_{i+11}, the entire OFDM band 50 is dedicated to Mode-2 traffic. During symbol duration t_{i+10} and onward, the first frequency band 51 is assigned to Mode-2 traffic while the second frequency band 53 is assigned to Mode-1 traffic, reading on the claimed "allocating radio resources for at least on frequency band having sub-carriers, to make the sub-carriers of the at least one frequency band temporarily available during a first time period, and allocating the radio resources to the radio cells during a second time period," (paragraphs 124, 125).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign different sub-carriers to modes that are implemented at different periods as taught by Ma et al. in the method of Guimont et al., in order to efficiently create a frequency plan.

Consider **claim 16**, Guimont et al., as modified by Ma et al., clearly show and disclose the claimed invention **as applied to claim 15 above**, and in

addition, Guimont et al. further disclose each cell 10(1) in the service area is assigned use of radio frequencies of the cellular band in frequency group A, reading on the claimed “assigning makes at least one of the sub-carriers available to exactly one radio cell in the at least two radio cells,” (fig. 1, col. 4 lines 20-30).

Consider **claim 18**, Guimont et al., as modified by Ma et al., clearly show and disclose the claimed invention **as applied to claim 15 above**, and in addition, Guimont et al. further disclose that adjacent cells are not assigned to use the same frequency by the frequency plan, reading on the claimed “assigning makes at least one of the sub-carriers available to exactly one radio cell in the at least two radio cells,” (fig. 1, col. 1 lines 45-50).

Consider **claim 19**, Guimont et al., as modified by Ma et al., clearly show and disclose the claimed invention **as applied to claim 15 above**, and in addition, Guimont et al. further disclose that in a cell structure having seven cells **10** per cluster **12**, there are seven frequency groups **14** identified and differentiated from each other by the alphabetic labels "A" through "G" corresponding to the cells 10(1)-10(7), respectively. Each frequency group 14 is divided into a plurality (n) of sub-frequency groups 14(1)-14(n). Thus, frequency group A includes sub-frequency groups A(1) through A(n), frequency group B includes sub-frequency groups B(1) through B(n), and so on up through the sub-frequency groups G(1) through G(n) of frequency group G, reading on the claimed “assigning of the sub-carriers is to n radio cells, making assigned sub-

carriers available to at least one radio cell have a frequency spacing of n sub-carriers," (col. 4 lines 20-40).

Consider **claim 20**, Guimont et al., as modified by Ma et al., clearly show and disclose the claimed invention **as applied to claim 15 above**, and in addition, Guimont et al. further disclose that in spite of the precautions taken to avoid interference, it is known that interference does occur in cellular systems like that previously described. One aspect of this interference originates from adjacent frequency communications occurring simultaneously in cells 10 of the same or other clusters 12 (i.e., adjacent channel interference), reading on the claimed "assigning makes at least some adjacent sub-carriers in the frequency band available to at least one radio cell," (col. 5 lines 12-20).

Consider **claim 26**, Guimont et al., as modified by Ma et al., clearly show and disclose the claimed invention **as applied to claim 15 above**, and in addition, Ma et al. further disclose that a wireless terminal communicates over a shared OFDM band, reading on the claimed "cellular radio communications system is an orthogonal frequency division multiplexing system," (paragraph 10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have sub bands of an OFDM band as taught by Ma et al. in the method of Guimont et al., in order to efficiently create a frequency plan.

Consider **claim 27**, Guimont et al. clearly show and disclose a frequency plan revision proposal is evaluated to determine whether it is compatible with the

current cell configuration by insuring that sufficient frequencies having appropriate operating modes are available for assignment to meet the traffic and control channel requirements and availability of the included cell transceivers. Available frequencies in the cellular frequency band are divided in accordance with the frequency plan into frequency groups **14**, with the frequency groups assigned amongst the cells **10** of each cluster **12** such that the radio frequencies of the cellular band are reused in each cluster, reading on the claimed "radio communication system of cellular construction configured as a multi-carrier system using at least one frequency band having sub-carriers for transmission of information, comprising at least two radio cells; at least one control device assigning the sub-carriers of the at least one frequency band to said at least two radio cells so that the sub-carriers are temporarily available to each radio cell for transmission of information; temporarily each of the sub-carriers is available to a subset of the at least two radio cells for transmission of information," (abstract, fig. 1, col. 4 lines 19-40).

However, Guimont et al. fail to specifically disclose that the sub-carriers are allocated during different time periods.

In the same field of endeavor, Ma et al. clearly show and disclose a method of communicating over a shared OFDM band comprising: generating and transmitting a low rate mode OFDM transmission in a first frequency band of the OFDM band; generating and transmitting a burst-mode transmission in a second frequency band of the OFDM band, the first frequency band being distinct from

the second frequency band (paragraph 86). FIG. 2 shows an example of time-frequency resource allocation for two different OFDM modes referred to as Mode-1 and Mode-2, which changes over time (Therefore, the modes are representative of periods of time). For symbol periods t_i through t_{i+9}, a first allocation is shown with the first frequency band 51 assigned to Mode-1 traffic and the second frequency band 53 assigned to Mode-2 traffic. During symbol duration t_{i+10}, t_{i+11}, the entire OFDM band 50 is dedicated to Mode-2 traffic. During symbol duration t_{i+10} and onward, the first frequency band 51 is assigned to Mode-2 traffic while the second frequency band 53 is assigned to Mode-1 traffic, reading on the claimed "assigning the sub-carriers of the at least one frequency band to said at least two radio cells during a first time period, and that during a second time period temporarily each of the sub-carriers is available," (paragraphs 124, 125).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign different sub-carriers to modes that are implemented at different periods as taught by Ma et al. in the method of Guimont et al., in order to efficiently create a frequency plan.

Consider **claim 28**, Guimont et al. clearly show and disclose a frequency plan revision proposal is evaluated to determine whether it is compatible with the current cell configuration by insuring that sufficient frequencies having appropriate operating modes are available for assignment to meet the traffic and control channel requirements and availability of the included cell transceivers.

Available frequencies in the cellular frequency band are divided in accordance with the frequency plan into frequency groups **14**, with the frequency groups assigned amongst the cells **10** of each cluster **12** such that the radio frequencies of the cellular band are reused in each cluster, reading on the claimed "control device of a radio communication system of cellular construction, that is configured as a multi-carrier system having at least two radio cells with at least one frequency band having sub-carriers for transmission of information in the at least two radio cells; means for temporarily assigning the sub-carriers of the at least one frequency band to the at least two radio cells so that the sub-carriers are available to each radio cell for the transmission of the information; means for temporarily assigning the sub-carriers of the at least one frequency band among the at least two radio cells so that each of the sub-carriers is available to a subset of the at least two radio cells for the transmission of the information," (abstract, fig. 1, col. 4 lines 19-40).

However, Guimont et al. fail to specifically disclose that the sub-carriers are allocated during different time periods.

In the same field of endeavor, Ma et al. clearly show and disclose a method of communicating over a shared OFDM band comprising: generating and transmitting a low rate mode OFDM transmission in a first frequency band of the OFDM band; generating and transmitting a burst-mode transmission in a second frequency band of the OFDM band, the first frequency band being distinct from the second frequency band (paragraph 86). FIG. 2 shows an example of time-

frequency resource allocation for two different OFDM modes referred to as Mode-1 and Mode-2, which changes over time (Therefore, the modes are representative of periods of time). For symbol periods t_i through t_{i+9}, a first allocation is shown with the first frequency band 51 assigned to Mode-1 traffic and the second frequency band 53 assigned to Mode-2 traffic. During symbol duration t_{i+10}, t_{i+11}, the entire OFDM band 50 is dedicated to Mode-2 traffic. During symbol duration t_{i+10} and onward, the first frequency band 51 is assigned to Mode-2 traffic while the second frequency band 53 is assigned to Mode-1 traffic, reading on the claimed "assigning the sub-carriers of the at least one frequency band during a first time period so that the sub-carriers are temporarily available, and assigning the sub-carriers of the at least one frequency band during a second time period so that each of the sub-carriers is temporarily available," (paragraphs 124, 125).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign different sub-carriers to modes that are implemented at different periods as taught by Ma et al. in the method of Guimont et al., in order to efficiently create a frequency plan.

3. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Guimont et al. (6,052,593)** in view of **Ma et al. (US 2004/001429 A1)**, and in further view of **Wang et al. (US 6,917,580 B2)**.

Consider **claim 17**, and **as applied to claim 16 above**, Guimont et al., as modified by Ma et al., clearly show and disclose the claimed invention except that the all the sub-carriers are assigned to exactly one cell.

In the same field of endeavor, Wang et al. clearly show and disclose a cellular communication system for wireless telecommunication on the basis of an OFDM scheme. Three cells (C_1 C_2 C_3) are divided into three sectors. The entire frequency band of the wireless cellular OFDM system is also divided into three subbands. Within one cell (C_1 C_2 C_3) subband is allocated to each sector, reading on the claimed "assigning makes each of the sub-carriers available to exactly one radio cell in the at least two radio cells," (abstract, col. 1 lines 53-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to designate subbands to the sectors in one cell as taught by Wang et al. in the method of Guimont et al., as modified by Ma et al., in order to efficiently create a frequency plans.

4. **Claims 21 and 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Guimont et al. (6,052,593)** in view of **Ma et al. (US 2004/001429 A1)**, and in further view of **Li et al. (US 2002/0147017 A1)**.

Consider **claim 21**, and **as applied to claim 15 above**, Guimont et al., as modified by Ma et al., clearly show and disclose the claimed invention except that the all the sub-carriers are allocated using an algorithm that includes a code.

In the same field of endeavor, Li et al. clearly show and disclose a method for allocating sub-carriers in a multi-cell, multi-subscriber wireless systems using orthogonal frequency division multiplexing (OFDM) (paragraphs 2 and 24). A procedure of selective sub-carrier allocation including algorithms used by a base station for sub-carrier selections. These algorithms are conceived to be a self-consistent sequence of steps leading to a desired result. The steps are those requiring physical manipulations of physical quantities that take the form of electrical or magnetic signals that are referred to as bits, values, elements, symbols, characters, terms, numbers, or the like, reading on the claimed "assigning of the sub-carrier takes place in accordance with an algorithm that includes use of a code," (paragraphs 31 and 33).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an algorithm for sub-carrier allocation as taught by Li et al. in the method of Guimont et al., as modified by Ma et al., in order to efficiently create a frequency plans.

Consider **claim 22**, the combination of Guimont et al. and Ma et al., as modified by Li et al., clearly show and disclose the claimed invention **as applied to claim 21 above**, and in addition, Li et al. further disclose base station assigns desirable clusters to the subscriber making the request. A cluster allocation and load scheduling controller **1301**, in the base station, collects all the necessary information for making the decision on cluster allocation, and informs the subscribers about the decisions through control signal channels, reading on the

claimed "assigning makes the sub-carriers used by base stations of particular radio cells available for transmission of broadcast information," (paragraphs 88-89).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have base stations collect and send information to the mobile stations as taught by Li et al. in the method of Guimont et al., as modified by Ma et al., in order to efficiently create a frequency plans.

5. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of **Guimont et al. (6,052,593)** and **Ma et al. (US 2004/001429 A1)** in view of **Li et al. (US 2002/0147017 A1)**, and in further view of **Frodigh et al. (5,726,978)**.

Consider **claim 23**, and **as applied to claim 22 above**, the combination of Guimont et al., and Ma et al., as modified by Li et al., clearly show and disclose the claimed invention except that the information sent over the channel is used for handovers.

In the same field of endeavor, Frodigh et al. clearly show and disclose a method of adaptive channel allocation in an OFDM system. The system provides an allocation of sub-carriers to each link of the OFDM system, reading on the claimed "method for managing radio resources in a cellular radio communications system configured as a multi-carrier system," (col. 4 lines 26-30). The system includes a dedicated control channel (DCCH) that is both an uplink and a downlink channel for transmitting control information for handovers,

reading on the claimed "broadcast information is used to decide on handovers," (col. 7 lines 30-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use control information for handovers as taught by Frodigh et al. in the method of Guimont et al and Ma et al., as modified by Li et al., in order to efficiently perform handovers in an OFDM system.

6. **Claims 24-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of **Guimont et al. (6,052,593)** and **Ma et al. (US 2004/001429 A1)**, in view of **Li et al. (US 2002/0147017 A1)** and **Frodigh et al. (5,726,978)**, and in further view of **Obayashi (US 2002/0082016 A1)**.

Consider **claim 24**, and **as applied to claim 23 above**, the combination of Guimont et al. and Ma et al., as modified by Li et al. and Frodigh et al., clearly show and disclose the claimed invention except that the amplitudes of the control information are determined.

In the same field of endeavor, Obayashi clearly show and disclose a mobile communication terminal apparatus which performs radio communication with base stations and selects the base station optimal for a handover in advance based on the electric field intensity values of several previous times as well as the weakest value, from the monitor result of the pilot channel, reading on the

claimed "determining amplitudes of the broadcast information in subscriber stations receiving the broadcast information," (abstract and paragraph 92).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to the intensity of the pilot as taught by Obayashi in the method of Guimont and Ma et al., as modified by Li et al. and Frodigh et al., in order to efficiently perform handovers in an OFDM system.

Consider **claim 25**, and **as applied to claim 24 above**, the combination of Guimont et al. and Ma et al., as modified by Li et al. and Frodigh et al., clearly show and disclose the claimed invention except that the amplitudes of the control information are determined.

In the same field of endeavor, Obayashi clearly show and disclose that a base station for handover is selected based on the average height of the electric field intensity values from the monitor result of the pilot channel, reading on the claimed "determining a metric of the amplitudes of the broadcast information transmitted from one of the base stations on the sub-carriers available to the one of the base stations," (abstract and paragraph 92).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to the intensity of the pilot as taught by Obayashi in the method of Guimont and Ma et al., as modified by Li et al. and Frodigh et al., in order to efficiently perform handovers in an OFDM system.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAIME M. HOLLIDAY whose telephone number is (571)272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Jaime M Holliday/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617